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NATIVE AMERICAN HERITAGE MONTH

Michael Running Wolf

Saving Words with Artificial Intelligence

A Coder Who Wants Computers to Speak Cheyenne

Michael Running Wolf is a citizen of the Northern Cheyenne Tribe. He grew up in Birney, a small village in Montana, where running water and electricity did not always work. His grandmother spoke Cheyenne, the language of his people. Michael went on to study **computer science** and earned two degrees from Montana State University.

Michael became a software engineer at Amazon, working on Alexa, the voice assistant that answers when you talk to it. Alexa understands speech because of **artificial intelligence**, or AI. AI learns by studying huge numbers of examples — in this case, recordings of people talking.

Many Native languages are **endangered**. That means fewer and fewer people speak them every year. When the last fluent speakers are gone, a language can disappear. Michael noticed that voice assistants understood English, but not Cheyenne. He also learned that Māori researchers in New Zealand had used AI to help their own language.

So Michael helped start a project called First Languages AI Reality, or FLAIR. The team builds AI tools that could help communities teach and practice their languages. There is a big problem, though: an AI needs many hours of recordings, and for many Native languages only a small number of recordings exist.

WORDS TO KNOW

- **computer science:** The study of how computers work and how to write the instructions (code) that tell them what to do.
- **artificial intelligence (AI):** Computer programs that learn from examples so they can do tasks like understanding speech.
- **endangered language:** A language that fewer and fewer people speak, so it is at risk of disappearing.

Part 1 • Reading Comprehension

1. What language did Michael's grandmother speak?

2. What did Michael work on at Amazon?

3. How does an AI learn to understand speech?

4. Why is it hard to build AI for many Native languages?

Part 2 • Language Challenge: Be the Training Data

An AI learns a word by hearing it said many different ways. Pick a word you use every day, like "hello" or "thank you," and think like a computer scientist collecting examples.

1 Write the word you chose. Then list three different people who could record themselves saying it.

2 Name two things that could make the same word sound different from one person to the next.

3 If each person records the word 5 times, how many recordings do your three people make in total?

Part 3 • Think About It

Michael wants AI to help people learn their language, not to replace fluent speakers. Why do you think real speakers, like grandparents and elders, are still important even if a computer can speak a language?

